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WATER PUMP DEVICE

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ABSTRACT

PROBLEM TO BE SOLVED: To provide a **bearing - seal** device for a water pump that almost completely prevents cooling water, water vapor and the like from entering a **bearing** , and prevent the grease in the **bearing** to flow out.

SOLUTION: An impeller-side **seal** ring includes: a reinforcing ring; a first sub- **lip** 1512 and a main 1513 each of which is made from an elastic material of rubber, synthetic resin and the like; an outer-ring-side **seal** ring 151 having a second sub- **lip** 1514 positioned at the outside of the main **lip** 1513 in the direction of the outside diameter; a first cylinder 1521 fitted and fixed to a **shaft** ; a middle part 1522 outwardly extended to the outside diameter from the first cylinder; and a second cylinder 1523 extended to the direction of the axis in succession to the middle part, and also includes a **shaft** -side **seal** ring 152 that rotates in conjunction with the **shaft** . The main **lip** 1513 slide-contacts with the external peripheral surface of the first cylinder 1521 of the **shaft** -side **seal** ring 152, and the first sub- **lip** 1512 slide-contacts with the external peripheral surface of a rotating member positioned inside the main **lip** 1513 in the direction of the axis. Also, the second sub- **lip** 1514 slide-contacts with the **shaft** -side **seal** ring 152 at the outside of the main **lip** 1513 in the direction of the outside diameter, and a part extended to the direction of the outside diameter of the **shaft** -side **seal** ring 152 forms a labyrinth **seal** between a slide contact of the second sub- **lip** and the outer-ring-side **seal** ring 151, or between the contact and an outer ring 101.

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